

WAYFINDER Animal Behavior and Adaptation

The following North Carolina State Science Standards are relevant to this Wayfinder:

Grade 4	1.01, 1.02, 1.03
----------------	-------------------------

Introduction

Explore the Wild is a six-acre outdoor learning area at the Museum featuring black bears, red wolves and lemurs. *Carolina Wildlife* in the main Museum also features wildlife such as alligators, snakes, woodchucks and trout. You can use these exhibits not only to get close to wildlife, but also to make observations about an animal's way of life. Each enclosure offers its own insight into the lives of the animals living there and the adaptations that help them survive.

Before your visit

Discuss with students the items in the environment that affect how an animal from the Museum (lemur, bear, butterfly, etc.) may live and survive. The following are some ideas:

- other animals (prey/predators/others sharing the same space)
- plant life
- weather and climate

Discuss with students particular advantages some animals have over others due to how they have adapted to their environment. Discuss well known adaptations such as a giraffe's neck, a shark's ability to continually grow teeth, or a stick insect's body plan.

Consider certain advantages and disadvantages that humans have in terms of survival when compared to other animals.

During your visit

Visit *Carolina Wildlife* or *Explore the Wild*. Have students choose an animal in *Carolina Wildlife* or visit one of the animal exhibits in *Explore the Wild*. Answer the following questions:

- 1) What has the Museum provided to the animal that is essential to its survival?
- 2) How might these items that you observe from the question above be obtained in the wild?
- 3) What else does the animal have available to them that aids in their survival that the Museum has not provided? *Some examples may include: body covering, claws, teeth, air, etc.*
- 4) What might be lacking in the enclosure that the animals may actually need to survive in the wild? *Do you see food/water in there now?*

5) Is there anything that could harm the animal in the wild that this enclosure helps protect the animal from? *Natural predators, bad weather, dangerous land forms, etc.*

6) Do you think this animal could survive in the wild? Why or why not?

If you are in *Explore the Wild*: Observe the black bears and the red wolves for a short time. If you are in *Carolina Wildlife*: Observe the woodchuck and the opossum for a short time.

7) Both of the animals you have observed are native species to North Carolina. How are they similar to each other? How might these similarities help them survive in wild North Carolina.

8) How are the two animals you observed different from each other? How do their differences help them survive in North Carolina.

9) Why might it be good that animals living in the same place have adaptations that allow them to do something in a different way than another animal?

Visit the *Butterfly House*. You may need to refer to the butterfly keys provided to visitors while you are here to determine where each type of butterfly lives in the wild. Consider what habitat each butterfly may be designed for. Have students pick two types of butterflies and answer the following questions:

1) In what ways are butterflies adapted to survive? What do their long tongues/wings/colors help them do?

2) How is this exhibit set up to help the butterflies survive? *Some ideas: fruit and flowers for food, running water and humidity, no predators, etc.*

3) Choose a type of butterfly. In what country can you find this butterfly in the wild?

4) What might the butterfly's surrounding environment look like in the wild?

5) How might their color/size/shape help them survive in their environment?

6) Choose another butterfly. Would this butterfly be able to survive in the same environment as your first butterfly choice? Why or why not?

7) If the environment in the conservatory were actually a wild environment, which of all the species of butterflies might be best suited to survive here? Why?

8) If the environment in the conservatory were a wild environment, which of these species of butterflies might not be suited to survive here? Why?

9) Look on the butterfly key and try to find two butterflies that are from the same country. How are they different from each other?

10) Why might it be good for butterflies in the same environment to differ from each other?

After your visit

Break students into small groups and assign one of the Museum animals to each group. Give each group time to write down a description of that animal's natural habitat. Have groups pass their habitat descriptions to another group. Groups should discuss how their own assigned animal may or may not be adapted to survive in the new habitat described by the other group. As a class, discuss some conclusions. From here, explore the bigger

questions: What habitat are humans adapted to? How are human adaptations similar/different from animal adaptations?